CLAIMS

1. An inkjet printhead comprising:

a plurality of nozzles,

a plurality of liquid passages leading to each nozzle respectively for providing ejectable liquid to the associated the nozzle; and,

droplet ejection actuators and associated drive circuitry corresponding to each nozzle respectively, the nozzles, ejection actuators, associated drive circuitry and liquid passage being formed on and through a wafer using lithographically masked etching techniques; wherein,

the wafer has a drop ejection side and a liquid supply side; such that,

each of the liquid passages is formed by etching a hole in the wafer from the drop ejection side, and etching a supply passage through the wafer from the liquid supply side of the wafer to form a fluid connection with the hole.

2. An inkjet printhead according to claim 1 wherein the width of the hole is greater than 8 microns.

3. An inkjet printhead according to claim 1 wherein the width of the hole is less than 24 microns.

4. An inkjet printhead according to claim 1 wherein the width of the supply passage is greater than 14 microns.

5. An inkjet printhead according to claim 1 wherein the width of the supply passage is less than 28 microns.

6. An inkjet printhead according to claim 1 wherein the droplet ejection actuators are thermal bend actuators.

7. An inkjet printhead according to claim 1 wherein the droplet ejection actuators are gas bubble generating heater elements.

8. An inkjet printhead according to claim 7 further including a plurality of nozzle chambers, each nozzle chamber corresponding to a respective nozzle; wherein, at least one the of the gas bubble generating heater elements are disposed in each of the nozzle chambers respectively; such that,

a bubble forming liquid can be supplied to the nozzle chamber for thermal contact with at least one of the bubble generating heater elements so that a bubble of the bubble forming liquid generated by one of the heater elements causes a droplet of the ejectable liquid to be ejected from the nozzle.

9. An inkjet printhead according to claim 8 wherein the bubble forming liquid is the same as the ejected liquid.

10. An inkjet printhead according to claim 1 wherein the printhead is a pagewidth printhead.

11. A method of ejecting drops of an ejectable liquid from an inkjet printhead, the printhead comprising a plurality of nozzles, a plurality of liquid passages leading to each nozzle respectively;

drop ejection actuators and associated drive circuitry corresponding to each nozzle respectively;

the nozzles, ejection actuators, associated drive circuitry and liquid passage being formed on and through a wafer from lithographically masked etching techniques, such that the wafer has a droplet ejection side and a liquid supply side, and, each of the liquid passages is formed by etching a hole partially through the wafer from the droplet ejection side, subsequently filling the hole with resist then etching a passage

from the liquid supply side of the wafer to the resist before stripping the resist from the hole, the method of ejecting drops comprising the steps of:

providing the ejectable liquid to each of the nozzles using the associated liquid passage; and

actuating the droplet ejection actuator to eject droplets of the ejectable liquid from the nozzle.

12. A method according to claim 11 wherein the width of the hole is greater than 8 microns.

13. A method according to claim 11 wherein the width of the hole is less than 24 microns.

14. A method according to claim 11 wherein the width of the supply passage is greater than 14 microns.

15. A method according to claim 11 wherein the width of the supply passage is less than 28 microns.

16. A method according to claim 11 wherein the droplet ejection actuators are thermal bend actuators.

17. A method according to claim 11 wherein the droplet ejection actuators are gas bubble generating heater elements.

18. A method according to claim 17 further including a plurality of nozzle chambers, each nozzle chamber corresponding to a respective nozzle; wherein,

at least one the of the gas bubble generating heater elements are disposed in each of the nozzle chambers respectively; such that,

a bubble forming liquid can be supplied to the nozzle chamber for thermal contact with at least one of the bubble generating heater elements so that a bubble of the

bubble forming liquid generated by one of the heater elements causes a droplet of the ejectable liquid to be ejected from the nozzle.

19. A method according to claim 18 wherein the bubble forming liquid is the same as the ejected liquid.

20. A method according to claim 11 wherein the printhead is a pagewidth printhead.

21. A method of fabricating inkjet printheads, the printhead comprising a plurality of nozzles, a plurality of liquid passages leading to each nozzle respectively for providing ejectable liquid to the associated the nozzle, drop ejection actuators and associated drive circuitry corresponding to each nozzle respectively, the method comprising the steps of:

forming the nozzles, ejection actuators, associated drive circuitry and liquid passages on and through a wafer from lithographically masked etching techniques, so that the wafer has a drop ejection side and a liquid supply side; and,

forming each of the liquid passages by etching a hole partially through the wafer from the drop ejection side;

filling the hole with resist;

etching a supply passage from the liquid supply side of the wafer to the resist; and,

stripping the resist from the hole.

22. A method according to claim 21 wherein the width of the hole is greater than 8 microns.

23. A method according to claim 21 wherein the width of the hole is less than 24 microns.

24. A method according to claim 21 wherein the width of the supply passage is greater than 14 microns.

25. A method according to claim 21 wherein the width of the supply passage is less than 28 microns.

26. A method according to claim 21 wherein the droplet ejection actuators are thermal bend actuators.

27. A method according to claim 21 wherein the droplet ejection actuators are gas bubble generating heater elements.

28. A method according to claim 27 further including a plurality of nozzle chambers, each nozzle chamber corresponding to a respective nozzle; wherein,
at least one the of the gas bubble generating heater elements are disposed in each of the nozzle chambers respectively; such that,
a bubble forming liquid can be supplied to the nozzle chamber for thermal contact with at least one of the bubble generating heater elements so that a bubble of the bubble forming liquid generated by one of the heater elements causes a droplet of the ejectable liquid to be ejected from the nozzle.

29. A method according to claim 28 wherein the bubble forming liquid is the same as the ejected liquid.

30. A method according to claim 21 wherein the printhead is a pagewidth printhead.

31. A printer system incorporating an inkjet printhead comprising:
a plurality of nozzles,
a plurality of liquid passages leading to each nozzle respectively for providing ejectable liquid to the associated the nozzle; and,
drop ejection actuators and associated drive circuitry corresponding to each nozzle respectively, the nozzles, ejection actuators, associated drive circuitry and liquid passage being formed on and through a wafer using lithographically masked etching techniques; wherein,

the wafer has a drop ejection side and a liquid supply side; such that,

each of the liquid passages is formed by etching a hole in the wafer from the drop ejection side, and etching a supply passage through the wafer from the liquid supply side of the wafer to form a fluid connection with the hole.

32. A printer system according to claim 31 wherein the width of the hole is greater than 8 microns.

33. A printer system according to claim 31 wherein the width of the hole is less than 24 microns.

34. A printer system according to claim 31 wherein the width of the supply passage is greater than 14 microns.

35. A printer system according to claim 31 wherein the width of the supply passage is less than 28 microns.

36. A printer system according to claim 31 wherein the droplet ejection actuators are thermal bend actuators.

37. A printer system according to claim 31 wherein the droplet ejection actuators are gas bubble generating heater elements.

38. A printer system according to claim 37 further including a plurality of nozzle chambers, each nozzle chamber corresponding to a respective nozzle; wherein,

at least one the of the gas bubble generating heater elements are disposed in each of the nozzle chambers respectively; such that,

a bubble forming liquid can be supplied to the nozzle chamber for thermal contact with at least one of the bubble generating heater elements so that a bubble of the bubble forming liquid generated by one of the heater elements causes a droplet of the ejectable liquid to be ejected from the nozzle.

39. A printer system according to claim 38 wherein the bubble forming liquid is the same as the ejected liquid.

40. A printer system according to claim 31 wherein the printhead is a pagewidth printhead.